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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,182	03/29/2001	Daniel R. Shepard	NUP-001RE	4816
51414	7590	07/21/2006	EXAMINER	
GOODWIN PROCTER LLP PATENT ADMINISTRATOR EXCHANGE PLACE BOSTON, MA 02109-2881			TRAN, ANDREW Q	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/821,182	SHEPARD, DANIEL R.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew Q. Tran	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005 and 01 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-13, 18, 19, 21-24 and 28-87 is/are pending in the application.
- 4a) Of the above claim(s) 28-30, 43, 47-50, 72, 73 and 77-87 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-13, 18, 19, 21-24, 31-42, 44-46, 51-71 and 74-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>see 6) Other</u> . | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> .           |

Continuation of Attachment(s) 6). Other: Information Disclosure Statements (IDS) filed 03/29/2001, 06/27/2003, and 07/30/2003.

## DETAILED ACTION

### *Reissue Applications*

This application is objected to under 37 CFR 1.172(a) as lacking the written consent of all assignees owning an undivided interest in the patent. The consent of the assignee must be in compliance with 37 CFR 1.172. See MPEP § 1410.01.

A proper assent of the assignee in compliance with 37 CFR 1.172 and 3.73 is required in reply to this Office action.

The reissue oath/declaration filed with this application is defective because the error which is relied upon to support the reissue application is not an error upon which a reissue can be based. See 37 CFR 1.175(a)(1) and MPEP § 1414.

The error given in the declaration is improper because the "duplication of claims already patented in the parent application" is not an error which can form the basis of a reissue. A disclaimer of these claims could simply be filed under 35 USC § 253. In addition, the declaration must **specifically** identify an error. Any error in the claims must be identified by reference to the specific claim(s).

The reissue oath/declaration filed with this application is defective (see 37 CFR 1.175 and MPEP § 1414) because of the following:

Art Unit: 2824

The oath/declaration does not state that the inventor(s) is(are) the “original and first” inventor(s).

Claims 4-13, 18-19, 21-24, 31-42, 44-46, 51-71 and 74-76 are rejected as being based upon a defective reissue oath/declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the oath/declaration is set forth in the discussion above in this Office action.

### ***Election/Restrictions***

Applicant's election without traverse of Group II invention and Species E of Fig. 14 (claims 4-13, 18-19, 21-24, 31-42, 44-46, 51-71 and 74-76) in the reply(ies) filed on October 28, 2005 and February 01, 2006 are acknowledged.

Claims 28-30, 43, 47-50, 72-73 and 77-87 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Election was made **without** traverse in the replies filed on October 28, 2005 and February 01, 2006.

### ***Specification***

A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because : the instant specification is replete with typographical or grammatical errors; eg. “large storage Capabilities” (col. 1, ln. 24); “nore complex” (col. 2, ln. 48); or “transistors QZ” (col. 10, ln. 51).

Art Unit: 2824

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

### ***Claim Objections***

Claims 39, 42, 56, 61-62 and 68 are objected to because of the following informalities:

In claim 39, line 1, "a" should be changed to --said--. In claim 42, line 1, "ground" (1<sup>st</sup> occurrence) should be changed to --a ground voltage--; and "ground" (2<sup>nd</sup> occurrence) should be changed to --ground voltage--. In claim 56, line 1, "ground" (1<sup>st</sup> occurrence) should be changed to --a ground voltage--; and "ground" (2<sup>nd</sup> occurrence) should be changed to --ground voltage--. In claim 61, line 1, "claim 61" should be changed to --claim 60--. In claim 62, line 1, "ground" (1<sup>st</sup> occurrence) should be changed to --a ground voltage--; and "ground" (2<sup>nd</sup> occurrence) should be changed to --ground voltage--. In claim 68, line 1, "ground" (1<sup>st</sup> occurrence) should be changed to --a ground voltage--; and "ground" (2<sup>nd</sup> occurrence) should be changed to --ground voltage--.

Appropriate correction is required.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 4-13, 18-19, 21-24, 31-42, 44-46, 51-71 and 74-76 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5,673,218. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims and the patent claims both recite substantially the same dual-addressed rectifier storage device with a first and second plurality of conductive lines overlapping each other to define an intersection location whereat a nonlinear storage element is present/absent; and corresponding addressing circuitry for selecting said nonlinear storage elements.

Claims 31-35 are further rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3-4 of U.S. Patent No. 6,956,757. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims and the patent claims both recite substantially the same dual-

Art Unit: 2824

addressed rectifier storage device with a first and second plurality of conductive lines overlapping each other to define an intersection location whereat a nonlinear storage element is present/absent; and corresponding addressing/decoding circuitry for selecting said nonlinear storage elements.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-13, 18-19, 21-24, 31-42, 44-46, 51-71 and 74-76 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claims, numerous recitations are deemed to be indefinite because it is unclear what are being claimed. The following are examples of unclear elements/features : first and second sets of conductive address lines (claim 31, line 2); a series of information-defining nonlinear elements (claim 31, line 4); address circuitry (claim 31, line 7); sensing circuitry (claim 32, line 1); additional address circuitry (claim 34, line 1); a threshold activation voltage (claim 36, line 2); a first set of selectable disabling lines (claim 37, line 2); a first pattern of nonlinear elements (claim 37, line 3-4); circuitry for applying a third voltage (claim 37, line 4); a second set of selectable disabling lines (claim 37, line 6); a second pattern of nonlinear elements (claim 37, line 7-8); circuitry for applying a fourth voltage (claim 37, line 8); an output line (claim 45, line 1); a sensing nonlinear element (claim 45, line 2); a first series of voltage-drop elements (claim 51, line 1); circuitry for applying a first voltage (claim 51, line 2); a second series of voltage-drop elements (claim 51, line 2-3); circuitry for applying a second voltage (claim 51, line 3-4); or circuitry that is external to the information-storage circuit for biasing the rectifiers (claim 55, line



Art Unit: 2824

1-2). Applicant is required to clarify these recitations via eg. drawing elements and corresponding descriptions in the specification.

Furthermore, numerous claims induce double inclusion of elements. For example, the phrases “a nonlinear information-defining element” (claim 32, line 2) and “an information-defining nonlinear element” (claim 44, line 2) appear to induce double inclusion of elements because it is unclear whether said phrases refer to same or different “information-defining nonlinear element”.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4-7, 11-13, 18-19, 21, 31-36, 40, 42 and 69-71 are rejected under 35 U.S.C. 102(b) as being anticipated by Tachi (US Pat 4,070,654 hereafter “Tachi”). See for example Fig. 1.

As best understood, at least claim 31 is anticipated by Tachi because Tachi teaches an information storage circuit comprising first and second sets of conductive address lines (selection input lines 51-53, and digit output lines 61-63) overlapping each other and defining storage locations; information-defining nonlinear elements (Schottky barrier diodes 31-36); and addressing circuitry (selection input circuit 1, and digit output circuit 2).

Claims 4-7, 11-13, 18-19, 21, 31-36, 40, 42 and 69-71 are also rejected under 35 U.S.C. 102(b) as being anticipated by Eardley (US Pat 4,347,585 hereafter "Eardley"). See for example Figs. 1-4.

As best interpreted, at least claim 31 is anticipated by Eardley because Eardley teaches an information storage circuit comprising first and second sets of conductive address lines (row conductors 0-n, and column conductors 20-2n) overlapping each other and defining storage locations; information-defining nonlinear elements (Schottky diodes 31-nn); and addressing circuitry (row driver circuit 110, and column driver circuit 120).

Claims 4-7, 11-13, 18-19, 21-22, 31-42, 44-46 and 51-71 are further rejected under 35 U.S.C. 102(b) as being anticipated by Graebel (US Pat 4,661,927 hereafter "Graebel"). See for example Figs. 1-5.

As best construed, at least claim 31 is anticipated by Graebel because Graebel teaches an information storage circuit comprising first and second sets of conductive address lines (wordlines W0-W2, and bitlines B0-B3) overlapping each other and defining storage locations; information-defining nonlinear elements (Schottky diodes 28-50); and addressing circuitry (X-address buffer 12, wordline decoder/driver 14, and Y-address buffer/decoder 16).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mar (US Pat 3,806,896) describes a reduced access terminal memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Q. Tran whose telephone number is (571) 272-1885. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew Q Tran  
Primary Examiner  
Art Unit 2824

at  
July 17, 2006